

Prior to examination of the above-identified application, please enter the following amendment and consider the following remarks.

IN THE CLAIMS:

Please cancel Claims 1-22 without prejudice.

Please add the following claims:

23. **(New)** An apparatus for simultaneously monitoring an array of reaction sites for light indicating that a reaction is taking place at a particular site, comprising:

means for receiving a plurality of liquid samples at respective reaction sites;

means for dispensing at least one reagent into said samples;

an optically sensitive device arranged so that in use the light sample will impinge upon a particular predetermined region of said optically sensitive device;

means for determining the level of light impinging upon each of said predetermined regions; and

means to record the variation of said light level with time for each of said liquid samples.

24. **(New)** An apparatus as claimed in Claim 23, wherein said means for receiving a plurality of liquid samples comprises a plate.

25. **(New)** An apparatus for identifying target bases in DNA sequences comprising:

a plate for receiving a plurality of liquid samples at respective reaction sites;

means for dispensing at least one reagent into said samples;

PATENT

an optically sensitive device arranged so that in use light generated by the reaction of a particular liquid sample signifying the incorporation of a nucleotide will impinge upon a particular region of said optically sensitive device;

means for determining the level of light impinging upon each of said predetermined regions; and

means for recording the variation of said light level with time.

26. **(New)** An apparatus as claimed in Claim 23 wherein the optically sensitive device comprises a single optical transducer.

27. **(New)** An apparatus as claimed in Claim 23 arranged to monitor the reaction sites from underneath.

28. **(New)** An apparatus as claimed in Claim 23, comprising an array of lenses between, or arranged in use between, said reaction sites and the optically sensitive device.

29. **(New)** An apparatus as claimed in Claim 28, wherein the lenses of said array are spaced by a smaller amount than the spacing of the corresponding reaction sites.

30. **(New)** An apparatus as claimed in Claim 23, wherein the optically sensitive device comprises a charge-coupled device.

31. **(New)** An apparatus as claimed in Claim 30, wherein the optically sensitive device comprises a frame transfer charge-coupled device.

32. **(New)** An apparatus as claimed in Claim 23, comprising means to record a measure of the total light output from a given reaction site.

33. **(New)** An apparatus as claimed in Claim 23, comprising means to convert the electrical output from said optically sensitive device into a digital signal.

34. **(New)** An apparatus as claimed in Claim 33, wherein said conversion means converts the signals from a plurality of neighbouring pixels in a single block.

35. **(New)** An apparatus as claimed in Claim 24, wherein said plate is in contact with heat regulating means.

36. **(New)** An apparatus as claimed in Claim 24, wherein masking means are provided between reaction sites on the plate.

37. **(New)** An apparatus as claimed in Claim 36, wherein said masking means are provided by channels in a block.

38. **(New)** An apparatus as claimed in Claim 37, wherein said block comprises temperature regulating means.

39. **(New)** An apparatus as claimed in Claim 37, wherein said channels flare outwardly towards the lower part thereof.

40. **(New)** A method of identifying a target base in a DNA sequence, comprising detecting the light level emitted from a plurality of reaction sites on respective portions of an optically sensitive device, converting the light impinging upon each of said portions of said optically sensitive device into an electrical signal which is distinguishable from the signals from all of said other regions, determining a light intensity for each of said discrete regions from the corresponding electrical signal, and recording the variations of said electrical signals with time.

41. **(New)** A method as claimed in Claim 40, comprising monitoring a plurality of reaction sites simultaneously.

42. **(New)** A method as claimed in Claim 40, wherein the interval between successive readings of the state of the optically sensitive device is less than or equal to the time between the addition of reagents to consecutive reaction sites.

43. **(New)** A method as claimed in Claim 41, comprising monitoring a plurality of reaction sites simultaneously.

PATENT

44. **(New)** A method as claimed in Claim 41, wherein the interval between successive readings of the state of the optically sensitive device is less than or equal to the time between the addition of reagents to consecutive reaction sites.

45. **(New)** A method as claimed in Claim 40, comprising recording the times at which a series of peaks in light output occur for each sample and, thereby enabling each peak to be associated with the addition of a particular reagent to the corresponding sample.

REMARKS

The Notification of Missing Requirements mailed February 9, 2001 for the above-identified application indicates that Preliminary Amendment filed December 18, 2000 "doesn't match claims."

The Preliminary Amendment filed December 18, 2000 amends the claims in this national stage application which were previously amended under Article 34 in the international stage on August 25, 2000. Applicants believe that the Preliminary Amendment of December 18, 2000 is appropriately directed to the claims pending on that date. However, in the interest of avoiding confusion, all pending claims have been canceled without prejudice. New Claims 23-45 have been added, and represent the claims of the international application amended to remove multiple dependencies. Accordingly, the present amendments does not change the scope of the claims, but merely renumbers the claims.

Favorable reconsideration and allowance of all pending claims is earnestly solicited.

Respectfully submitted,



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